

- Final Draft I -
3/28/14

STATEMENT OF WORK

Construction Oversight and Technical Support for Subsurface Isolation Barrier Installation West Lake Landfill Site.

1. BACKGROUND INFORMATION

The West Lake Landfill Site is on a parcel of approximately 200 acres located in the northwestern portion of the St. Louis metropolitan area. It is situated approximately one mile north of the intersection of Interstate 70 and Interstate 270 within the limits of the city of Bridgeton in northwestern St. Louis County. The Missouri River lies about 1.5 miles to the north and west of the Site.

The Site consists of the Bridgeton Sanitary Landfill (Former Active Sanitary Landfill) and several inactive areas with sanitary and demolition fill that have been closed. Land use at the site and the surrounding areas in Earth City is industrial.

Other facilities which are not subject to this response action are located on the 200-acre parcel including concrete and asphalt batch plants, a solid waste transfer station, and an automobile repair shop.

The Site was used agriculturally until a limestone quarrying and crushing operation began in 1939. The quarrying operation continued until 1988 and resulted in two quarry pits. Beginning in the early 1950s, portions of the quarried areas and adjacent areas were used for landfilling municipal solid waste (MSW), industrial solid wastes, and construction/demolition debris. These operations were not subject to state permitting because they occurred prior to the formation of the Missouri Department of Natural Resources (MDNR) in 1974. Two landfill areas were radiologically contaminated in 1973 when they received soil mixed with leached barium sulfate residues.

The barium sulfate residues, containing traces of uranium, thorium, and their long-lived daughter products, were some of the uranium ore processing residues initially stored by the Atomic Energy Commission (AEC) on a 21.7-acre tract of land in a then undeveloped area of north St. Louis County, now known as the St. Louis Airport Site (SLAPS), which is part of the St. Louis Formerly Utilized Sites Remedial Action Program managed by the U.S. Army Corps of Engineers.

Reportedly, 8,700 tons of leached barium sulfate residues were mixed with approximately 39,000 tons of soil and then transported to the Site. According to the landfill operator, the soil was used as cover for municipal refuse in routine landfill operations.

The geology of the landfill area consists of Paleozoic-age sedimentary rocks overlying Pre-Cambrian-age igneous and metamorphic rocks. The Paleozoic bedrock is overlain by unconsolidated alluvial and loess deposits of recent (Holocene) age. Alluvial deposits of varying thickness are present beneath Areas 1 and 2. The landfill debris varies in thickness from 5 to 56

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feet in Areas 1 and 2, with an average thickness of approximately 30 feet in Area 2. The underlying alluvium increases in thickness from east to west beneath Area 1. The alluvial thickness beneath the southeastern portion of Area 1 is less than 5 feet (bottom elevation of 420 ft/amsl) while the thickness along the northwestern edge of Area 1 is approximately 80 feet (bottom elevation of 370 ft/amsl). The thickness of the alluvial deposits beneath Area 2 is fairly uniform at approximately 100 feet (bottom elevations of 335 ft/amsl).

A subsurface oxidation event (SSE) is ongoing in the South Quarry Landfill portion of the Bridgeton Sanitary Landfill. The South Quarry cell is connected to the North Quarry cell which is adjacent to Operable Unit 1, Area 1, one of the locations on site that received the radiologically contaminated soils in 1973. Pursuant to an order from the Missouri Attorney General, the site owner is required to install a subsurface barrier between the North Quarry cell and OU-1 Area 1 to prevent the SSE from migrating into the radiologically contaminated materials. Since the isolation barrier will be placed on the Westlake Landfill portion of the site, EPA will be the lead Agency. The work will be completed under an EPA issued Administrative Order on Consent under EPA's CERCLA removal authorities.

II. OBJECTIVE AND SCOPE

The EPA is requesting assistance from the US Army Corps of Engineers (USACE) to review and comment on the draft design of the proposed barrier, work plans specifications and other related technical documents (eg., air monitoring plans, bird mitigation plans etc..) developed for the installation of the subsurface barrier and provide construction oversight during the installation of the barrier at the West Lake Landfill. The technical support consists of the performance of specific tasks which USEPA contractors have neither the expertise nor cannot provide at reasonable costs to EPA.

This work assignment includes the technical review of the draft barrier design, specifications and related technical documents.

III. WORK ASSIGNMENT TASKS

The USACE shall furnish personnel and services required to provide assistance in reviewing data submitted by PRPs. This review will assist the EPA in determining potentially applicable technologies for constructing the barrier, and in ensuring that the approved design is feasible. Construction oversight by the USACE will be requested during key construction aspects of the isolation barrier.

Tasks

1. Project Planning and Support
2. Technical Assistance
3. Design Review
4. Construction Oversight
5. Community Relation
6. Post Construction Support
7. Work Assignment Close Out

TASK 1 PROJECT PLANNING AND SUPPORT

This task includes work efforts related to project initiation, management, and support. Activities required under this task include the following, as applicable:

- 1.1 The USACE shall participate in a scoping meeting with EPA to discuss the work assignment.
- 1.2 The USACE shall prepare a work plan of support activities.
- 1.3 Based on EPA's review of the work plan, the USACE may be called upon to participate in negotiations with EPA on the work plan and to revise the work plan as a result of these negotiations or comments made regarding the work plan.
- 1.4 The USACE shall prepare, if needed, a site-specific Quality Assurance Project Plan (QAPP) in accordance with EPA QA/R-5. The plan shall describe the data quality objectives and the measures necessary to achieve them.
- 1.5 The USACE shall perform site-specific project management including:
 - Establishment and maintenance of necessary work assignment files
 - Perform contract administration functions associated with this work assignment
 - Provide quarterly reporting and invoices
 - Monitor costs and performance
 - Coordinate staffing and other support activities to perform the work assignment tasks in accordance with the Statement of Work (SOW) including Team subcontractors and other subcontractors
 - Attend necessary work assignment meetings
- 1.6 The USACE shall accommodate any external audit or review mechanism that EPA may require.

TASK 2 TECHNICAL ASSISTANCE

This task includes assistance from the US Army Corps of Engineers (USACE) to review and comment on the draft design of the proposed isolation barrier, work plans specifications and other related technical documents. Documents that may be submitted for review may include, but not limited to:

- 2.1 Storm Water Management Plan
- 2.2 Excavation Material Management Plan
- 2.3 Trench Dewatering Plan
- 2.4 Odor Mitigation/Dust Suppression Plan
- 2.5 Excavation Air Monitoring Plan

2.6 Bird Mitigation Plan

TASK 3 DESIGN REVIEW

This task includes assistance from the US Army Corps of Engineers (USACE) to review and comment on the draft design of the proposed isolation barrier. Plans may be submitted as follows:

3.1 Preliminary Design – Design plans should be submitted at approximately the 30% complete point. The purpose of this submittal is to confirm agreement on the general direction of the RD in order to minimize conflicts during later stages of the RD. The Preliminary Design submittal may include:

- a. Design Criteria
- b. Basis of Design
- c. Results of additional sampling and pre-design work
- d. Preliminary drawings
- e. Specifications outline
- f. Preliminary construction schedule

3.2 Pre-Final Design – Design plans should be submitted at approximately 90% complete stage. This Pre-Final Design shall function as the draft version of the Final Design and will provide for a second technical review prior to preparation of the final design plans. This submittal shall address all comments made on the Preliminary Design and shall include final plans and specifications.

3.3 Final Design – Following review and comment on the Pre-Final Design, the final revisions shall be incorporated into a final design submittal. The Final Design shall address all comments made on the Pre-Final Design.

TASK 4.0 CONSTRUCTION OVERSIGHT

This task includes assistance from the US Army Corps of Engineers (USACE) to conduct oversight activities related to the preparation, installation, and post installation activities of the isolation barrier as identified in the approved design work plans and specifications. Activities requiring oversight may include, but not limited to:

- 4.1 Vegetation clearing along barrier pathway and excavated material laydown areas;
- 4.2 Establishing and/or modifying surface slope and storm water drainage pathways/erosion control;
- 4.3 Barrier excavation and waste storage

TASK 5 COMMUNITY RELATIONS

This task includes assistance from the US Army Corps of Engineers (USACE) for staff to attend and participate in technical meetings and community meetings, as requested by EPA, to help explain USACE role, responsibility, involvement the barrier design and construction. Potential activities related to community involvement may include, but are not limited to:

- 5.1 Meeting preparation
- 5.1 Monthly Community Advisory Group (CAG) meetings;
- 5.2 Public Meeting(s)
- 5.3 Contingency for unanticipated meetings.

TASK 6 POST CONSTRUCTION SUPPORT

This task includes assistance from the USACE for the review of post-construction documents. The USACE shall provide technical assistance in the review and evaluation of technical reports submitted by PRP and/or their contractors. The USACE shall provide their evaluation of the data to EPA as a USACE letter-type administrative report or letter.

TASK 7 WORK ASSIGNMENT CLOSE OUT

This task includes efforts related to work assignment close out. Activities required under this task include the following:

- 7.1 Upon notification by EPA, the USACE shall begin all internal procedures necessary to close out the work assignment including any file duplication, distribution, storage, or archiving per the contract requirements.
- 7.2 The USACE shall return documents identified to EPA or other document repositories as directed.

IV. WORK ASSIGNMENT PERIOD OF PERFORMANCE

April 1, 2014 to December 31.2014

V. SCHEDULE OF DELIVERABLES/MILESTONES

Task 1	Quarterly Reports/Invoices	Throughout period
Task 2,3,4,6	Review of PRP submittals	As needed

VI. PERFORMANCE CRITERIA

The USACE's deliverables will be inspected by the government for acceptability. Unacceptable deliverables will be returned to the USACE with comments and directions for necessary corrections or rework which may be applicable.

VII. ACCEPTANCE CRITERIA

The following are the acceptance criteria for the deliverables under this work assignment.

TASK	DELIVERABLE/SERVICE	CRITERIA
1	Quarterly Reports/Invoices	Narrative of specific task and subtask activities sufficient enough for work assignment manager to evaluate the work assignment progress.
2, 3, 4, 6	Review of design work plans	Timely, complete, and accurate review and evaluation of engineering issues, along with specific recommendations for changes as necessary.

VIII. EPA CONTACTS

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